

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A method for manufacturing a pneumatic tire in which a green tire having tire components assembled is charged in a mold for vulcanization-molding and lug grooves are formed on a tire tread surface within the mold by lug groove ribs provided on an inner surface of the mold, said method includingcomprising the steps of:

1) previously forming carved grooves at positions on a tread surface of said green tire corresponding to said lug grooves such that the carved grooves extend in substantially the same direction as said lug grooves and that each of the carved grooves has substantially a triangular shape that is different from the shape of said lug groove ribs and widens gradually from a side of a tread center to a side of a tread end; and

inserting at least one of the lug groove ribs into a corresponding carved groove formed on said tread surface of the green tire while rotating the mold relative to the green tire, said triangular shape preventing interference and pressing of the lug groove ribs with and against the tread surface of the green tire, while ensuring smooth insertion of the lug groove ribs into the carved grooves, respectively, when the green tire is being introduced into the mold.

2. (Original) A method for manufacturing a pneumatic tire as claimed in claim 1, wherein said carved groove is carved in a shape opened from a tread center side to a tread end.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/633,336 (*Q60276*)

3. (Original) A method for manufacturing a pneumatic tire as claimed in claim 2, wherein said craved groove is carved in a shape opened from a neighborhood of a closed end point of said lug groove to said tread end.

4. (Original) A method for manufacturing a pneumatic tire as claimed in claim 3, wherein said closed end point of said lug groove is distant from a tread center by a distance larger than 0.1 times of a tread width.

D
5. (Previously presented) A method of manufacturing a pneumatic tire as claimed in claim 1, wherein a main part of said lug groove is inclined with regard to axis of the tire at an angle of 5 degrees and more and 45 degrees and less.

6. (Original) A method of manufacturing a pneumatic tire as claimed in claim 1, wherein said carved groove is carved in a shape opened from one tread end to another tread end.

7. (canceled)

8. (Previously presented) A method for manufacturing a pneumatic tire as claimed in claim 1, wherein said carved groove having the shape gradually widening is formed by carrying out the carving twice using a cutter.

9. (Previously presented) A method for manufacturing a pneumatic tire as claimed in claim 6, wherein said carved groove is carved along direction of said lug groove and along direction of axis of the tire from or toward a neighborhood of said closed end point of said lug groove.

10. (Original) A method of manufacturing a pneumatic tire as claimed in claim 1, wherein volume of said carved groove is 0.4 - 1.2 times of volume of said lug groove.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/633,336 (*Q60276*)

11. (Original) A method of manufacturing a pneumatic tire as claimed in claim 10, wherein volume of said carved groove is 0.7 - 1.0 times of volume of said lug groove.

12. (Original) A method of manufacturing a pneumatic tire as claimed in claim 10, wherein depth of said carved groove is 0.5 - 0.9 times of depth of said lug groove.

13. (Original) A method of manufacturing a pneumatic tire as claimed in claim 1, wherein said tire components include a belt member having a relatively low expansion rate.

14. (Previously presented) A method for manufacturing a pneumatic tire as claimed in claim 13, wherein expansion rate of said belt member is 3% or less.

15. (Previously presented) A method for manufacturing a pneumatic tire as claimed in claim 1, wherein a full-mold vulcanization-molding machine having an upper mold and a lower mold is used as a mold for vulcanizing and molding said green tire.

16. (Original) A method of manufacturing a pneumatic tire as claimed in claim 15, wherein lug groove ribs on said upper and lower molds are fitted in said carved groove of said green tire when said green tire is charged in said full-mold vulcanization-molding machine.

17. (Currently amended) A method for manufacturing a pneumatic tire, comprising:
~~a step of manufacturing a green tire in which extruded rubber having the shape of a ribbon or a sheet is piled up on a ply and a belt member assembled on a drum to form a tread;~~
~~a step of forming a carved groove on a tread surface of said green tire in direction of a lug groove; and~~

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/633,336 (*Q60276*)

~~a step of charging said green tire formed with said carved groove in a vulcanization-molding machine to carry out vulcanization-molding so as to form a vulcanized tire having the lug groove, which is formed by a lug groove rib of the vulcanization-molding machine; and inserting at least one of the lug groove ribs into a corresponding carved groove formed on said tread surface of the green tire while rotating the mold relative to the green tire wherein the carved groove has a shape that is different from the shape of the lug groove rib.~~

18. (canceled)

19. (Previously presented) A method as claimed in claim 1, wherein said triangular shape is formed by the step of carving a first groove extending in a direction inclined to an axis of the tire and a second groove extending substantially in parallel with said axis and partly overlapping said first groove.

20. (New) A method of manufacturing a pneumatic tire as claimed in claim 1, further comprising the steps of:

J

providing said mold with an upper mold part and a lower mold part having said lug groove ribs;

relatively moving said upper mold part to said lower mold part to close said mold; and rotating said upper mold part relative to said lower mold part while the upper mold part is moving toward said lower mold part.

21. (New) A method for manufacturing a pneumatic tire as claimed in claim 20, wherein said step of rotating said upper mold part relative to said lower mold part is carried out

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/633,336 (*Q60276*)

with a slide guide fixed to the upper mold part being guided by a slide glide fixed to the lower mold part.